

The Cost of Hypertension

The cost of Hypertension in South Africa today — CVA? Cardiac failure? Renal failure? All in all the cost to the country in terms of drug treatment alone, is at present estimated at R27,920,250 per annum.

Currently there are some 86 drugs available in the Republic to treat hypertension. In total, R27,920,250 is spent annually by non-hospitalized South Africans in combating the disease of modern times.

Beta blockers still dominate the anti-hypertensive market, accounting for over R10 million per annum in sales at chemist level, with the present growth of these products running at over R1 million every year.

Synthetic hypotensives in combination form the second largest therapy sector, with annual sales amounting to more than R4,5 million.

The third largest hypertension specific treatment approach is the beta blocker/diuretic combination. Presently realizing yearly sales of R3,4 million, these products are currently growing at a remarkable 47% annually.

What does it mean, apart from vast sums of money? It means problems for the practitioner — 86 drugs with various advantages and disadvantages are available treatment alternatives.

A patient spectrum from young to old, male and female, smokers and non-smokers, active and sedentary, black and white, concerned or not. The possible permutations of patient, product and practitioner preference are phenomenal.

Perhaps a detailed look at some of the drugs available, their effects on blood pressure and possible effects on life style, would be worthwhile, and so for the purpose of this article Family Practice has taken extracts from package inserts kindly supplied by the manufacturers of these products.

Puresis

This is a diuretic manufactured by Lennon Laboratories, and is indicated for hypertension of mild to moderate degree.

Puresis exerts its diuretic action by virtue of its saluretic properties. It lowers pathologically raised blood pressure levels, but does not affect normal values.

After administration, the onset of action is rapid, usually within half-an-hour. The peak action is usually achieved after two hours and the duration of action is 4-5 hours.

Reported, infrequent side effects include various forms of dermatitis, pruritis, blurring of vision and anaemia.

Furosemide is the active ingredient in Puresis, and so the drug is contra-indicated in patients who exhibit hypersensitivity to this.

For further information circle No 202

Amiloretic

Also produced by Lennon is Amiloretic, a diuretic which contains hydrochlorothiazide and amiloride hydrochloride, both oral diuretics which act by reducing reabsorption of electrolytes from the renal tubules, thereby increasing the excretion of sodium and chloride ions and consequently of water.

Amiloretic is indicated in oedema of cardiac decompensation and essential hypertension.

Occasional side effects such as skin rashes, epigastric pain, anorexia, gastric irritation, nausea, vomiting and diarrhoea, have been reported.

Amiloretic is contra-indicated in patients

with a hypersensitivity to either hydrochlorothiazide or amiloride, and also in those with severe renal and/or hepatic insufficiency.

For further information circle No 203

Pur-Bloka

Again from Lennon is Pur-Bloka (propranolol hydrochloride). In response to the inhibition of the beta-receptors, the oxygen requirement diminishes, which proves beneficial in cases of angina pectoris. The blood pressure of hypertensive patients is also reduced because of this effect.

Treatment of hypertension with Pur-Bloka is usually carried out in conjunction with a thiazide diuretic.

The most common side effects of Pur-Bloka are nausea, vomiting, diarrhoea, fatigue and dizziness.

Contra-indications include bronchial asthma, metabolic acidosis, marked bradycardia, heart failure refractory to digitalis, pregnancy, lactation and hypoglycaemia.

For further information circle No 204

Hy-Po-Tone

Another product available from Lennon is Hy-Po-Tone (methyldopa) which is indicated in the treatment of essential hypertension. Methyldopa causes progressive reductions in blood pressure and heart rate that are maximal at 4-6 hours and persist for as long as 24 hours after a single oral dose.

The reduction of blood pressure induced

by methyl dopa has not been shown to involve any major changes in blood flow distribution.

Hy-Po-Tone is contra-indicated in patients known to be sensitive to it and it should be used with caution in patients with impaired kidney or liver function or with a history of liver disease or depression. It is also contra-indicated during pregnancy.

The most common side effect of methyl dopa is drowsiness in the first two or three days but this usually decreases spontaneously or as a result of reduction in the dosage.

For further information circle No 205

Viskaldix

Available from Sandoz Products, Viskaldix is a combination of the beta adrenergic blocking drug pindolol and the thiazide-like diuretic clopamide. Clinical studies have shown that the combination is an effective and well-tolerated antihypertensive agent, that both components contribute to this effect and that the combination is more effective than pindolol alone.

Pindolol possesses, apart from beta adrenergic blocking properties, an intrinsic sympathomimetic effect.

Clopamide in the dosage present in Viskaldix contributes to a lowering of blood pressure without excessive diuresis.

The hypotensive effect of the combination is often seen after 5-7 days but the maximum effect may not be achieved for 2-3 weeks.

Contra-indications include acute glomerulonephritis, marked bradycardia, AV block, attack of bronchial asthma and severe renal or hepatic failure.

Occasionally dizziness, tiredness, gastrointestinal disturbances and sleep disturbances are reported side-effects, but these are in most cases mild and transient.

For further information circle No 206

Zaroxolyn

Also available from Sandoz Products is Zaroxolyn, a diuretic indicated for the treatment of mild and moderate hypertension.

When used in an anti-hypertensive dosage, the effect may be seen as early as 3-4 days after commencing therapy, while the optimum effect is achieved after 3-4 weeks.

Zaroxolyn is contra-indicated in patients suffering from anuria, hepatic coma or pre-coma.

The most frequently encountered side-effects have been nausea, vomiting, constipation, diarrhoea and headache.

Breast feeding should be avoided during treatment with Zaroxolyn.

For further information circle No 207

Visken

This is a specific beta adrenergic blocking agent, also available from Sandoz Products, and in therapeutic doses inhibits excessive stimulation of cardiac beta receptors, while at the same time, it has little effect on the sympathetic tone, which is important for

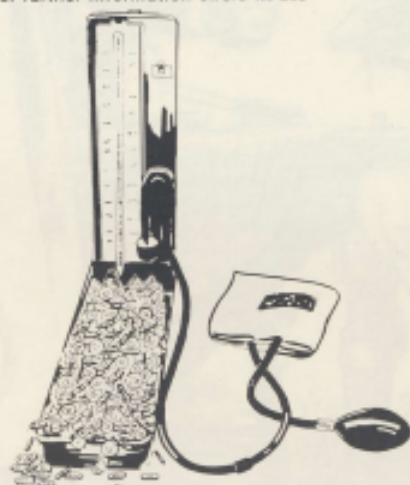
maintaining normal blood pressure and normal cardiovascular function. Furthermore, Visken has some beta receptor stimulant properties (intrinsic sympathomimetic activity) which ensures adequate sympathetic tone. Its beta-blocking activity prevents excessive reaction of the heart to sympathetic stimuli especially during effort. This leads to a decrease in cardiac work and myocardial consumption.

Visken is indicated for the treatment of atrial hypertension, angina pectoris, cardiac arrhythmias, functional hyperadrenergic cardiac disturbances and anxiety syndrome.

It is contra-indicated in digitalis resistant cardiac failure, pronounced bradycardia, during attack of bronchial asthma and during treatment with drugs which inhibit calcium transport.

Tiredness, headache, gastro-intestinal disturbances and dizziness are among the side effects which may be observed.

For further information circle No 208



Serpasil, Navidrex-K and Serpasil-Navidrex-K

These three products are available from Ciba-Geigy, and have been placed under the same heading because Serpasil and Navidrex-K are available singly or in the combination form of Serpasil-Navidrex-K.

Serpasil is a crystalline active substance obtained from Rauwolfia which lowers blood pressure while at the same time exerts a tranquilizing, relaxing and equilibrating effect. In addition Serpasil slows the heart rate. With Serpasil ampoules it is also possible to lower the blood pressure in situations where hypertension constitutes an acute threat to the patient's life, i.e. in hypertensive emergencies.

It is indicated for the treatment of hypertensive crises, in the management of states of anxiety and tension, as a supportive therapy in the treatment of cardiac disorders and is also suitable for the treatment of all forms of hypertension including hypertensive toxemia of pregnancy.

It is contra-indicated in mental depression, peptic ulcer, epilepsy and Parkinsonism.

Mild side-effects occurring at the commencement of treatment (tiredness, nasal congestion) usually disappear upon

reduction of the dosage.

For further information circle No 209

Apresoline

Apresoline (Ciba-Geigy) is a hydralazine preparation which produces a gradual and sustained reduction in elevated blood pressure. One of the principal features of Apresoline, which distinguishes it from other antihypertensive drugs, is the fact that it improves cerebral and renal blood flow.

It is indicated in various forms of hypertensive disease including essential hypertension, hypertension with renal involvement, and malignant hypertension.

Apresoline should not be given during the first trimester of pregnancy, and during late pregnancy it should only be given if its use is mandatory.

The side effects which Apresoline is likely to provoke are headache, tachycardia, and palpitations, but these can largely be avoided by increasing the dosage very gradually, or by combining the drug with a beta-blocker.

For further information circle No 210

Trasicor, Slow Trasicor and Trasicor 80S

All available from Ciba-Geigy, Trasicor (oxyprenalol hydrochloride) is a specific inhibitor of the beta-adrenergic receptors.

Slow Trasicor and Trasicor 80S are both supplied in a form specially designed to ensure that the active substance is released gradually. This characteristic prolongs the duration of effect and eliminates peaks and troughs in the blood and tissue levels of the active substance.

Trasicor is indicated in angina pectoris, hypertension and anxiety states. It is effective in lessening somatic symptoms associated with a wide range of stressful situations.

It is contra-indicated in second- and third-degree AV block, bradycardia, heart failure refractory to digitalis and uraemia.

Bronchoconstriction may occur in patients suffering from asthma, bronchitis or other chronic pulmonary diseases when beta-blocking agents are administered.

This adverse effect must be regarded as being possible, irrespective of whether or not the beta-blocker is 'cardioselective' or has 'intrinsic sympathomimetic activity'.

For further information circle No 211

Logroton (metoprolol tartrate, chlorthalidone), Lopresor (metoprolol tartrate), Hygroton (chlorthalidone)

All available from Ciba-Geigy, these products are indicated in hypertension.

Chlorthalidone is a long-acting diuretic which lowers both systolic and diastolic pressures, the degree of reduction depending on the initial blood pressure of the patient. In general, the higher the initial blood pressure, the greater will be the fall brought about by chlorthalidone.

Metoprolol tartrate is a beta-blocker which is relatively more selective for beta 1-receptors which mediate heart rate and force of contraction, free fatty acids release and renin production, than for beta 2-receptors which mediate bronchodilation and peripheral vascular dilation. Consequently it protects the heart and cardiovascular system from excessive sympathetic stimulation caused by either physical or emotional activity while having relatively little effect on the airways or on peripheral vascular responses.

Logroton and Lopresor are contra-indicated AV block, marked bradycardia and heart failure.

There are no absolute contra-indications for Hygroton.

As with other beta-blockers, care should be taken when prescribing these products to asthmatic patients or those with chronic obstructive pulmonary disease.

For further information circle No 212

Hygroton-Reserpine

This is a balanced combination of two established antihypertensive agents (available from Ciba-Geigy). The two substances complement each other and produce a full effect in low doses, so that toleration is good. Both of them possess a long-duration of action which permits blood pressure levels to be restored smoothly and gently to near-normal values.

Moreover, because this effect is achieved with an intermittent dosage scheme, treatment is economical. Hygroton-Reserpine is indicated for the long term treatment of hypertension.

There are no absolute contra-indications, but special care is needed in the presence of diabetes mellitus.

Therapy should be initiated with other antihypertensives if the patient shows signs of depression, or continued with other antihypertensives if such signs set in during treatment with Hygroton-Reserpine.

For further information circle No 213

Adelphane-Esidrex

Indicated in all forms of essential hypertension and renal hypertension, Adelphane-Esidrex (Ciba-Geigy), is an antihypertensive agent with a complex mode of action. It is so well tolerated that it can also be safely employed to treat ambulant patients.

It produces a gradual and sustained reduction in elevated blood pressure; it also has the advantage that despite the reduction in blood pressure, renal blood flow is not diminished, but on the contrary, often enhanced.

Adelphane-Esidrex is contra-indicated in severe hepatic insufficiency.

Tiredness and nasal congestion may be encountered as side effects in some patients.

For further information circle No 214

Aldomet

MSD produce Aldomet (methyldopa) which

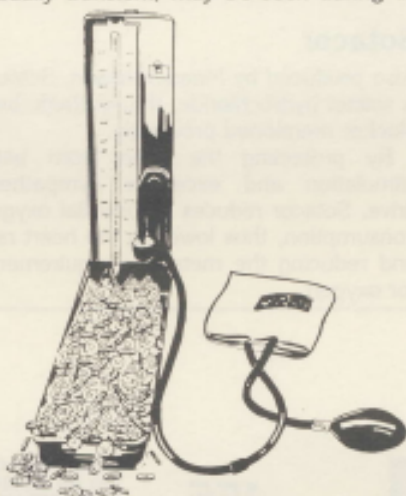
is an effective antihypertensive agent that reduces both supine and standing blood pressure.

Exercise hypotension and diurnal blood pressure variations rarely occur with this product and by adjustment of dosage, morning hypotension can be prevented without sacrificing control of afternoon blood pressure.

Because of its relative freedom from adverse effects on kidney function, methyldopa can be of benefit in the control of blood pressure even in the presence of renal impairment. It may even help arrest or retard the progression of renal impairment and damage due to sustained elevations of blood pressure.

Aldomet is contra-indicated in active hepatic disease and should be used with caution in patients with a history of previous liver disease or dysfunction.

Adverse effects due to Aldomet have been infrequent. Patients usually feel well and improve symptomatically. Sedation, usually transient, may be seen during the



initial period of therapy or when the dosage is increased.

Methyldopa is not recommended for patients with pheochromocytoma.

For further information circle No 215

Moducuren

Also from MSD is Moducuren which is an antihypertensive agent that combines hydrochlorothiazide, amiloride hydrochloride and timolol maleate.

Hydrochlorothiazide and timolol maleate are used singly and concomitantly for the treatment of hypertension, while amiloride hydrochloride provides potassium conserving activity.

Moducuren is therefore a rational combination of diuretic, beta blocker and potassium conserving diuretic which is useful for the treatment of patients who may benefit from this type of therapy.

It is contra-indicated in bronchospasm, sinus bradycardia and second- and third-degree AV block.

During clinical studies the most common side effects experienced with Moducuren were asthenia, fatigue and bradycardia.

For further information circle No 216

Moduretic

This is another antihypertensive/diuretic available from MSD containing amiloride hydrochloride and hydrochlorothiazide.

It is indicated in the treatment of patients with oedema of cardiac origin, and in hypertension where potassium depletion might be anticipated.

The combination of the two active ingredients in Moduretic minimizes the possibility of the development of excessive potassium loss in patients during vigorous diuresis for prolonged periods.

It may be used alone or as an adjunct to other hypertensive agents. Since it enhances the action of these agents, the dosage of these must be reduced to avoid an excessive drop in pressure and other unwanted side effects.

Moduretic is contra-indicated in hyperkalemia, impaired renal function and also, as with all other drugs, prior sensitization to either ingredient is a contra-indication.

Reported side effects have included dry mouth and thirst, anorexia, nausea, vomiting, constipation and diarrhoea.

For further information circle No 217

Blocadren

The Frosst division of MSD produce Blocadren (timolol maleate) a beta blocker indicated in angina pectoris, and essential hypertension.

It reduces blood pressure without acute hypotensive episodes in most patients with essential hypertension. Less than one per cent of patients may develop acute hypotensive episodes. The exact mechanism of action is still not known.

Blocadren is contra-indicated in patients with congestive heart failure, significant cardiomegaly, sinus bradycardia, second- and third-degree AV block, allergic rhinitis and bronchospasm.

It is usually well tolerated — there is little interference with physical or mental activity. The most commonly reported side effects have been gastrointestinal symptoms. Non-psoriasiform skin rashes have been reported in low incidence.

For further information circle No 218

Inderal, Inderal LA (long acting) and Inderetic

All produced by ICI, these products are indicated for the management of hypertension.

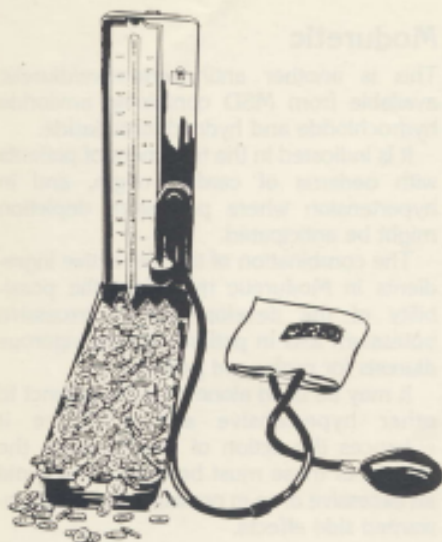
Inderal and Inderal LA both contain propranolol hydrochloride, while Inderetic combines propranolol with bendrofluazide (a thiazide diuretic).

Propranolol is a beta-blocker with a predominantly cardiovascular action. Its most important effect is to protect the heart from excessive sympathetic nervous stimulation, whether this results from mental or physical activity.

None of these products should be used in the presence of second- and third-degree AV block.

The usual precautions with beta-blockers should be taken.

For further information circle No 219



Sotazide

Produced by Mead Johnson (B-M Group), Sotazide is an effective antihypertensive which combines sotalol hydrochloride and hydrochlorothiazide, and is therefore a combination of beta blocker and diuretic.

The concomitant use of these agents frequently produces a more pronounced antihypertensive effect than if either is used alone. In hypertensive patients where sodium and water retention is frequently a problem, the diuretic component will help control the fluid imbalance.

Sotalol is mainly excreted by the kidneys — about 60% is excreted in the urine

within 72 hours unchanged. A high correlation is seen between dosage, plasma levels and therapeutic effects. As it does not cross the blood brain barrier, CNS side effects are rarely encountered.

Sotalol is mainly excreted by the kidneys — about 60% is excreted in the urine within 72 hours unchanged. A high correlation is seen between dosage, plasma levels and therapeutic effects. As it does not cross the blood brain barrier, CNS side effects are rarely encountered.

Sotalol exhibits an extended half-life of 10-15 hours which allows a convenient once daily dosage.

Sotazide is contra-indicated in patients with bronchial asthma, obstructive lung disease, cardiac decompensation, cardiogenic shock, hypertensive crisis, anaesthesia that produces myocardial depression, allergy and drug regimens including MAO inhibitors.

Dizziness is the most common side effect observed with Sotazide.

For further information circle No 220

Sotacor

Also produced by Mead-Johnson, Sotacor is sotalol hydrochloride, the synthetic beta blocker mentioned previously.

By protecting the heart from beta-stimulation and excessive sympathetic drive, Sotacor reduces myocardial oxygen consumption, thus lowering the heart rate and reducing the metabolic requirements for oxygen.

The negative inotropic effect produced by Sotacor is relatively slight, and there is little myocardial depressant effect.

The activity of Sotacor is essentially confined to beta adrenergic blockade and it exhibits virtually no other pharmacological effects.

It is indicated in the management of hypertension, angina pectoris, arrhythmias, anxiety, hyperthyroidism and essential tremor.

It is contra-indicated in patients with congestive heart failure, sinus bradycardia, second and third degree AV block and psychotropic drug treatment (including MAO inhibitors).

Sotacor is generally well tolerated but occasionally adverse reactions have been reported. However these are transient and rarely require the interruption of or withdrawal of the treatment.

Due to the possible hypoglycaemic effects of beta adrenergic blocking agents, care should be taken when Sotacor is prescribed for patients receiving hypoglycaemic agents.

For further information circle No 221

If you require more information about the products mentioned in this feature, please use the reader-reply service.



Sotalol hydrochloride
Reg. No. H/5,2/48
SOTACOR* 160 mg tablets

SOTACOR* treats HYPERTENSION and helps prevent its COMPLICATIONS

Give all your hypertensive patients the additional protection of SOTACOR

DOSAGE:

Treatment is initiated with 160 mg once daily, which may be increased by 80 mg at weekly intervals until bloodpressure is controlled.

*Reg. Trademark, Authorised User
Mead Johnson
Pharmaceutical Division of
The B-M Group (Pty) Ltd